

**What is claimed is:**

1. A method for a client platform coupled to a server platform via a network,  
comprising:

5       determining that an input/output operation related to a hardware device  
happens in a virtual machine of the client platform; and  
requesting the server platform via the network to handle the input/output  
operation related to the hardware device.

10       2. The method of claim 1, wherein the request comprises a server identifier  
to identify the server platform.

3. The method of claim 1, wherein the request comprises a software device  
identifier to identify a software device from a plurality of software devices in the  
15   server platform to handle the input/output operation related to the hardware device.

4. The method of claim 1, further comprising:  
receiving a feedback for the input operation from the server through the  
network, the feedback comprising a virtual machine identifier to identify the virtual  
20   machine in the client platform that is executing the input operation; and  
sending the feedback to the virtual machine identified by the virtual  
machine identifier.

5. The method of claim 1, further comprising:

receiving via the network an interrupt instruction issued by a software device of the server platform, the interrupt instruction comprising a virtual machine identifier to identify a virtual machine to perform the interrupt instruction; and  
5 injecting the interrupt instruction into the virtual machine identified by the virtual machine identifier.

6. A machine-readable medium comprising a plurality of instructions which when executed result in a client platform:

10 determining that an input/output operation related to a hardware device happens in a virtual machine of the client platform; and  
requesting a server platform coupled to the client platform via the network to handle the input/output operation related to the hardware device.

15 7. The machine-readable medium of claim 6, wherein the request further comprise a server identifier to identify the server platform.

8. The machine-readable medium of claim 6, wherein the request comprises a software device identifier to identify a software device from a plurality  
20 of software devices in the server platform to handle the input/output operation related to the hardware device.

9. The machine-readable medium of claim 6, wherein the plurality of instructions further result in the client platform:

receiving a feedback for the input operation from the server platform through the network, the feedback comprising a virtual machine identifier to  
5 identify the virtual machine in the client platform that is executing the input operation; and

sending the feedback to the virtual machine identified by the virtual machine identifier.

10 10. The machine-readable medium of claim 6, wherein the plurality of instructions further result in the client platform:

receiving an interrupt instruction issued by a software device from the plurality of software devices in the server platform through the network, the interrupt instruction comprising a virtual machine identifier to identify a virtual  
15 machine to perform the interrupt instruction;

injecting the interrupt instruction to the virtual machine identified by the virtual machine identifier.

20 11. A method for a server platform coupled to a client platform via a network,

receiving, from the client platform via the network, a request for an input/output operation related to a hardware device; and

identifying a software device from a plurality of software devices in the server platform to handle the request, the identified software device corresponding  
25 to the hardware device related to the input/output operation.

12. The method of claim 11, wherein the request comprises a software device identifier to identify the software device in the server platform.

13. The method of claim 11, further comprising  
5 receiving the request for the input/output operation with a first server of the server platform,

determining whether the identified software device is in a second server of the server platform; and

10 sending the request from the first server to the second server via the network, in response to determining that the identified software device is in the second server.

14. The method of claim 11, further comprising:  
obtaining a result for the input operation from the identified software device;  
15 constructing a feedback with the result and a virtual machine identifier to identify a virtual machine in the client platform that is executing the input operation; and

sending the feedback from the server platform to the client platform through the network.

20 15. The method of claim 14, wherein the feedback further comprise a client platform identifier to identify the client platform that has sent the request.

16. The method of claim 11, further comprising:  
25 issuing an interrupt instruction from a software device of the plurality of software devices in the server platform to the client platform through the network.

17. The method of claim 11, wherein the interrupt instruction further comprises a virtual machine identifier to identify a virtual machine in the client platform to handle the interrupt.

5           18. A machine-readable medium comprising a plurality of instructions which when executed result in a server platform:

          receiving a request for an input/output operation related to a hardware device from a client platform through a network; and

          identifying a software device from a plurality of software devices in the  
10   server platform to handle the request, the identified software device corresponding to the hardware device related to the input/output operation.

          19. The machine readable medium of claim 18, wherein the request comprises a software device identifier to identify the software device in the server  
15   platform.

          20. The machine readable medium of claim 18, wherein the plurality of instructions that result in the server platform receiving the request, further result in the server platform:

20           receiving the request for the input/output operation from the client platform with a first server in the server platform.

21. The machine readable medium of claim 20, wherein the plurality of instructions further result in the server platform:

determining whether the identified software device is in a second server of the server platform; and

5        sending the request from the first server to the second server through the network, in response to determining that the identified software device is in the second server.

22. The machine readable medium of claim 18, wherein the plurality of  
10 instructions further result in the server platform:

obtaining a result for the input operation from the identified software device;

constructing a feedback with the result and a virtual machine identifier to identify a virtual machine in the client platform that is executing the input operation; and

15        sending the feedback from the server platform to the client platform through the network.

23. The machine readable medium of claim 22, wherein the feedback  
further comprise a client identifier to identify the client platform that has sent the  
20 request.

24. The machine readable medium of claim 18, wherein the plurality of instructions further result in the server platform:

issuing an interrupt instruction from a software device of the plurality of  
25 software devices in the server platform to the client platform through the network.

25. The machine readable medium of claim 24, wherein the interrupt instruction further comprises a virtual machine identifier to identify a virtual machine in the client platform to handle the interrupt.

5           26. A system, comprising  
a client platform comprising:  
a plurality of virtual machines; and  
a virtual machine monitor to determine that an input/output operation  
related to a hardware device happens in a virtual machine of the plurality of virtual  
10 machines and construct a request for the input/output operation;  
a client network interface to send the request through a network; and  
the server platform comprising:  
a server network interface to receive the request through the network;  
a plurality of software devices;  
15 a controller to identify a software device from the plurality of software  
devices to handle the request, the identified software device corresponding to the  
hardware device related to the input/output operation.

27. The system of claim 26, wherein the request further comprises a  
20 software identifier to identifier the software device in the server platform.

28. The system of claim 26, wherein

the identified software device in the server platform is further to obtain a result for the input operation, and construct a feedback with the result and a virtual machine identifier to identify the virtual machine in the client platform under control  
5 from the controller, and

the server network interface is further to send the feedback to the client platform through the network.

29. The system of claim 26, wherein

10 the client network interface is further to receive a feedback for the input operation from the server platform through the network; and

the virtual machine monitor is further to identify the virtual machine in the client platform that is executing the input operation based upon the feedback and send the feedback to the identified virtual machine.

15

30. The system of claim 26, wherein

a software device in the server platform is to issue an interrupt instruction under control from the controller, the interrupt instruction including a virtual machine identifier to identify another virtual machine in the client platform to  
20 handle the interrupt instruction; and

the server network interface is further to send the interrupt instruction to the client platform through the network.



31. The system of claim 30, wherein  
the client network interface is further to receive the interrupt instruction; and  
the virtual machine monitor is further to identify the another virtual machine  
from the plurality of virtual machines based upon the interrupt instruction and  
5 inject the interrupt into the identified another virtual machine.

32. A method for a system comprising a client platform and a server  
platform, wherein the client platform couples to the server platform through a  
network, the method comprising:  
10 determining that an input/output operation related to a hardware device  
happens in a virtual machine of the client platform;  
sending a request for the input/output operation from the client platform to  
the server platform through the network;  
receiving the request through the network by the server platform;  
15 identifying a software device from a plurality of software devices in the  
server platform to handle the request, wherein the identified virtual device  
corresponds to the hardware device related to the input/output operation.

33. The method of claim 32, wherein the receiving further comprises  
20 receiving the request with a first server in the server platform.

34. The method of claim 33, further comprising:  
determining whether the identified software device is in a second server of  
the server platform; and

5 sending the request from the first server to the second server through the  
network, in response to determining that the identified software device is in the  
second server.

35. The method of claim 32, further comprising:  
obtaining a result for the input operation from the identified software device  
10 in the server platform;

constructing a feedback with the result and a virtual machine identifier to  
identify the virtual machine in the client platform that is executing the input  
operation; and

15 sending the feedback from the server platform to the client platform through  
the network.

36. The method of claim 35, wherein the feedback further comprise a client  
identifier to identify the client platform that has sent the request.

20 37. The method of claim 32, further comprising:  
issuing an interrupt instruction from a software device in the server platform  
to the client platform through the network.

38. The method of claim 32, wherein the interrupt instruction further  
25 comprises a virtual machine identifier to identify another virtual machine in the  
client platform to handle the interrupt.

39. The method of claim 38, further comprising:  
receiving the interrupt instruction through the network by the client platform;  
identifying the another virtual machine in the client platform based upon the  
interrupt instruction; and  
5 injecting the interrupt into the identified another virtual machine.